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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/776,175	02/02/2001	Kamran Azadet	Azadet 11-1-1-6	2199

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MOSER, PATTERSON & SHERIDAN L.L.P.
595 SHREWSBURY AVE, STE 100
FIRST FLOOR
SHREWSBURY, NJ 07702

EXAMINER

ABRAHAM, ESAW T

ART UNIT	PAPER NUMBER
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2133

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/776,175	AZADET ET AL.	
	Examiner	Art Unit	
	Esaw T. Abraham	2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 5, 9-12, 15 and 18-26 is/are rejected.
- 7) ☒ Claim(s) 2-4, 6-8, 13, 14, 16 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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Response to the applicant's amendments

Applicant's argument, see Appeal brief pages 16-43, filed on 11/24/04 with respect to the rejection(s) of claim(s) 1-26 under 35 U.S.C. 102(e) as being clearly anticipated by Treadaway et al. (U.S. PN: 6,665,285) have been fully considered and are persuasive. Therefore, the final rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Muller et al. (U.S. PN: 6,873,630).

DETAILED ACTION

1. Claims **1-26** are presented for examination.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere CO.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. Claims 1, 5, 9, 10-12, 15 and 18-26, rejected under 35 U.S.C. 103(a) as being unpatentable over Muller et al. (U.S. PN: 6,873,630).

As per claims 1, 10, 15 and 18-20:

Muller et al. teach or disclose Ethernet architecture is provided for connecting a computer system or other network entity to a dedicated Ethernet network medium (abstract). Muller et al. teach that on a receiving station, the receiver's network interface includes a collector for collecting the multiple mini-frames (e.g., after decoding) and reconstructing the frame's byte stream (e.g., for transfer to the receiver's MAC). The first and last bytes of each frame and mini-frame are marked for ease of recognition. Multiple unique idle symbols may be employed for transmission during inter-packet gaps to facilitate the collector's synchronization of the multiple channels and/or enhance error detection (see abstract). Further, Muller et al. teach that the size of each mini-frame of an Ethernet frame (i.e., the portion of the frame carried by one channel) will equal the size of the other mini-frames, plus or minus one byte. This provides one easy method of detecting an error (e.g., CRC) in the transmission or reception of a frame. Further, Muller et al. teach a frame sequencing enforced by providing multiple different codes or symbols to represent the period between frames (e.g., the Inter-Packet Gap or IPG). With this method of frame sequencing, a receiving entity may synchronize the multiple channels by monitoring which codes or symbols are received during each gap (see col. 2, lines 48-58). Furthermore, Muller et al. teach that an IPG between a first MAC frame and a second MAC frame may be marked by IdleX, the IPG between the second and third frames may be marked by IdleX+1, etc. For effective demarcation of the beginning and end of each frame and mini-frame, an additional set of delimiters is applied in one embodiment of the invention and a Start of Packet Delimiter

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(SPD) and End of Packet Delimite (EPD) are inserted at the beginning and end, respectively, of each packet received at a distributor from a MAC layer. Thus, the SPD and EPD symbols may be used similarly to existing Ethernet architectures. A new set of delimiters, which may be termed Start of Mini-frame Delimiter (SMD) and End of Mini-frame Delimiter (EMD), are used to mark the beginning and end of each mini-frame that is not marked with the SPD or EPD symbols. Thus, regardless of which channel a packet begins or ends on, the mini-frame that initiates the packet will begin with a SPD code and the mini-frame that completes the packet will end with a EPD code. The other mini-frames will begin with the SMD code and end with the EMD code (see col. 10, lines 54-67 and col. 11, lines 1-15). Muller et al. **do not explicitly teach** transmitting temporary frames separated by IPG's. **Nevertheless**, as would have been well known to one ordinary skill in the art at the time the invention was made, methods of separating frames temporarily are required in order to check or detect mini frames or packets partially. **Accordingly**, it would have been obvious to one ordinary skill in the art to separate frames temporarily because such methods of separating frames temporarily would have been required in order to accurately analyze transmission data and stabilize the production lines.

As per claim 5:

Muller et al. teach or disclosed that an individual bit errors that result in the corruption of a packet's data will be detected and handled at the MAC level (e.g., by a CRC computation) after re-assembly of mini-frames by a collector. Other errors, such as those associated with coding violations, framing errors, disparity errors and the like may be detected at the PCS level (see col. 14, lines 8-26).

As per claims 11, 12 and 23:

Muller et al. teach or disclosed that an individual bit errors that result in the corruption of a packet's data will be detected and handled at the MAC level (e.g., by a CRC computation) after re-assembly of mini-frames by a collector. Other errors, such as those associated with coding violations, framing errors, disparity errors and the like may be detected at the PCS level. Further, Muller et al teach that channel synchronization errors not detected by the collector--such as the loss or insertion of multiple mini-frames in a channel--will be detected by the MAC since they will result in a very large number of CRC errors with no other errors present (e.g., such as framing, coding, parity) (see col. 14, lines 8-26).

As per claims 21 and 22:

Muller et al. teach or disclose that illustratively, the size of each mini-frame of an Ethernet frame (i.e., the portion of the frame carried by one channel) will equal the size of the other mini-frames, plus or minus one byte. This provides one easy method of detecting an error (e.g., CRC) in the transmission or reception of a frame. Further, frame sequencing may be enforced by providing multiple different codes or symbols to represent the period between frames (e.g., the Inter-Packet Gap or IPG). With this method of frame sequencing, a receiving entity may synchronize the multiple channels by monitoring which codes or symbols are received during each gap (see col. 2, lines 48-58).

As per claims 24-26:

Muller et al. teach or disclose that individual bit errors that result in the corruption of a packet's data will be detected and handled at the MAC level (e.g., by a CRC computation) after re-assembly of mini-frames by a collector. Other errors, such as those associated with coding violations, framing errors, disparity errors and the like may be detected at the PCS level. In

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particular, for each packet (e.g., set of mini-frames) received at a collector, the collector may be notified if an error was detected in processing any of the packet's mini-frames (e.g. through its respective PCS). Thus, an error in one mini-frame of a packet may be imputed to the entire packet.

Allowable subject matter

3. Claims **2-4, 6-8, 13-14, 16 and 17**, are objected to as being dependent upon a rejected base claim but would be allowable if rewritten independent from including all of the limitation of the base claim and any intervening claims. The claimed invention comprises a length indicative data element is positioned within said IPG and each length indicative data element storing a length parameter associated with a data frame adjacent said IPG (**as in claim 2**) which the prior art do not teach or render obvious.

Claims **3 and 4**, which are directly or indirectly dependents of claim 2 are also objected.

The claimed invention comprises a data frame scrambled using a polynomial which is relatively prime with a CRC generator polynomial used to generate said respective CRC Indicative data element (**as in claim 6**) which the prior art do not teach or render obvious.

The claimed invention comprises the method of data frame is scrambled using a polynomial (**as in claims 7, 16**) which the prior art do not teach or render obvious.

Claims **8, and 17**, which are directly or indirectly dependents of claims of 7 and 16 are also objected.

The claimed invention comprises a protocol comprising the scrambling said received data included within said sequence of data frames; and determining whether said scrambled data

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include a data pattern that interpreted as being equivalent to said synchronization pattern; and in the case of finding such a matching data pattern, inserting an error message into said data frame being formed (**as in claim 13**) which the prior art do not teach or render obvious.

Claim 14, which are directly or indirectly dependents of claim 13 are also objected.

Conclusion


4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US PN: 6,570,890 Keenan et al.

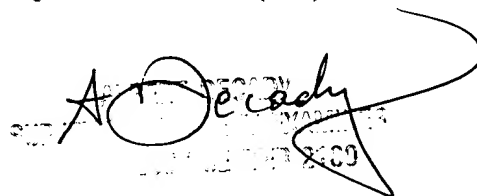
5. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Esaw Abraham whose telephone number is (571) 272-3812. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are successful, the examiner's supervisor, Albert DeCady can be reached on (571) 272-3819. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for after final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.


Esaw Abraham

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Albert DeCady